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ABSTRACT

Noting that a study of semantics can inform teachers' understanding of the reading process, this paper describes seven basic types of meaning, illustrates how the interrelatedness of meanings within a semantic field may be shown, and discusses children's acquisition of semantic fields. It cites research into the development of semantic fields in elementary school children and compares children's perceptions of the field of pronouns with those of adults. The paper then shows how the notion of semantic fields has been used to teach remedial writing, through a process in which students channel clusters of associated words within semantic fields through editory procedures into continuous prose. Finally, the paper illustrates the importance of an awareness of pronoun relationships in understanding written material. Research showing that average and poor readers aged 6 1/2 to 7 1/2 had much greater difficulty than good readers in supplying missing pronouns in cloze exercises indicates that it may be profitable to teach children to attend to forward and backward cues in reading and to understand pronoun relationships. (GW)

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Some Influences of Semantics on Reading Development.

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Some Influences of Semantics on Reading Development

At a previous conference of this Association David Crystal (1975) drew attertion to the role that general linguistics plays in the study of reading. He pointed out its fundamental importance, stating that it 'inculcates a state of mind, provides a set of principles and, because of its coherent scientific framework, can inspire confidence when it comes to suggesting solutions to problems. He outlined three principles of significance for reading, the notion of language variety, the view of language as an integrated set of levels, and the idea of ordered stages of linguistic development.

In much the same way I would like to add a fourth, to these the ways in which a study of semantics might inform our understanding of reading. Semantics, whose study has presented such formidable problems in the past has begun, particularly so in the last ten years, to exhibit that same 'coherent scientific framework' that has characterised much of modern linguistics. (It is viewed by many, of course, as a branch of linguistics) The insights provided by semantic studies will, in the future I'm sure, greatly influence the study of reading and help to solve some of its problems. The area of knowledge covered by semantics is vast and complex, however it can be limited within a general linguistic framework.

The perspective adopted here is that provided by linguistics: semantics being regarded as a branch of that science. The boundaries can be restricted still further by singling out for comment one type of meaning for investigation. Leech (1974) gives a useful division of the different facets of meaning, showing seven basic types.

Seven Types of Meaning

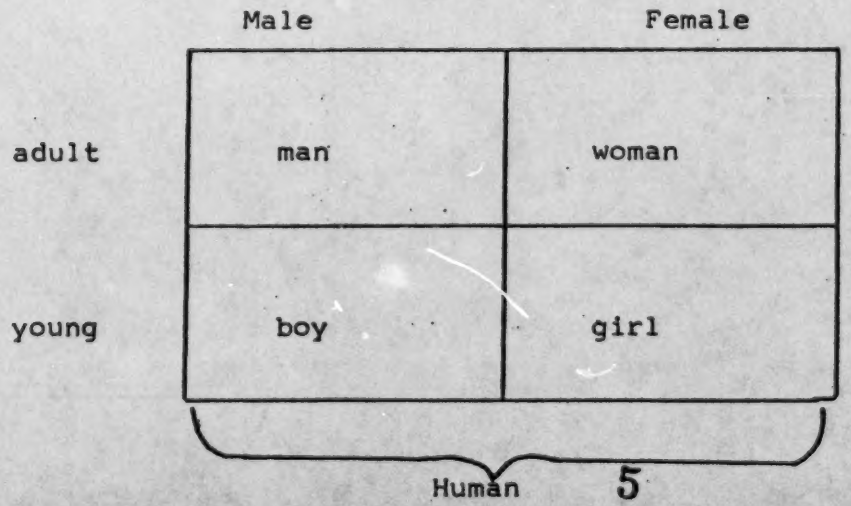
1 Conceptual Meaning (or sense)		Logical, cognitive or denotative content
Associative Meaning	2 Connotative Meaning	What is communicated by virtue of what language refers to.
	3 Stylistic Meaning	What is communicated of the social circumstances of language use.
	4 Affective Meaning	What is communicated of the feelings and attitudes of the speaker/writer.
	5 Reflected Meaning	What is communicated through association with another sense of the same expression.
	6 Collocative Meaning	What is communicated through association with words which tend to occur in the environment of another word.
	7 Thematic Meaning	What is communicated by the way in which the message is organised in terms of order and emphasis.

After Leech, G (1974) page 26. 4

Whilst meaning in terms of communication embraces all types of meaning, one type only is selected for consideration, that is Conceptual Meaning, or Sense. This is not to say that the other types are not very important, it is purely a matter of reducing an enormous field of knowledge so that one facet can be analysed and its implications for reading examined. Conceptual Meaning is also chosen for it is close, due to its logical, cognitive or denotative nature meaning, to the study of reading comprehension.

Components and Contrasts of Meaning

One way of looking at word meaning is by a process of 'breaking down the sense of a word into its minimal distinctive features'. For instance, the words, man; woman; boy; girl, belong to the larger semantic field concerned with the human species. A simple two dimensional diagram illustrates how we can begin to analyse and to specify the features of the words within this semantic field.



These simple relationships can be represented in another way using the following type of notation for the features:

man:	+	human	+	adult	+	male
woman:	+	human	+	adult	-	male
boy:	+	human	-	adult	+	male
girl:	+	human	-	adult	-	male

These are called componential definitions and can be used to show the interrelatedness of meanings within a semantic field by breaking down each concept into minimal components or features. Various types of opposition, which are not necessarily absolute, can be shown in this way by the differing logical consequences they have in sentences containing them. Further details of this type of analysis can be found in the reference to Leech cited above.

The Child's Acquisition of Semantic fields

(To avoid misunderstanding, it is wise perhaps to recall that psychological studies have provided much data on concept development but in this paper, the description and approach is that of semantics).

If semantic fields can be analysed in this way, then it follows by analogy to other developmental processes, that children may well acquire semantic fields by way of their

components or features of meaning in an orderly fashion. The pace of this acquisition may well depend on the richness of the child's language environment. This being so then it is again probable that the distinctive features that are uncovered by such techniques as componential analysis will accrue during and be dependent upon language experience. Another way of putting this is to think of a conceptual field being in embryonic form only in the young child's awareness and gradually growing with linguistic experience by the addition of distinguishing features until the richness of a fully developed adult concept is reached. This growth of meaning could be by the accretion of the componential features, or markers, as they are sometimes called. The word could be "in" the child's vocabulary, but be hollow or empty and mislead the teachers into belief that the child's usage is equivalent to her own.

Clark (1972) has already researched the early acquisition processes of semantic fields with children aged 4 to 5½ years. Her findings were that:

. children set up these semantic or conceptual fields automatically as they learn something of the meaning of relative words;

. there is a distinct order of acquisition based on the complexity of the structure of the field.

My own research (Chapman, 1975) looked at the further development of certain fields in school children aged 5 to 11 years. By using 'Happy Family' type games leading into judgement of the closeness of meaning taks, the research showed that there was a steady developmental growth from the early stages examined at 5 years towards the adult model. This is not, of course, surprising. However, the importance for the teacher is in the ways in which the componential features are acquired - their order of acquisition, and the amount of language exposure needed for the abstractions to be made and full conceptual meanings to develop.

Three semantic fields were examined in the research, Kinship terms, Colour names, and Pronouns. The latter, the Pronoun field because of their semantico-syntactic significance will be used as an example. It could be argued that Pronouns are essentially syntactic and not semantic and there is much to be said for this viewpoint as the field is closely bounded and relatively unchanging, compared with some Noun fields. However, the example was chosen here for it illustrates the interplay between syntax and semantics in dynamic reading situations.

Gleason (1969) provides a paradigm of the semantic field of personal Pronouns. This gives some idea of the dimensions of the field's organisation and the componential

features involved. From their language use, children gradually acquire the features of the pronouns:

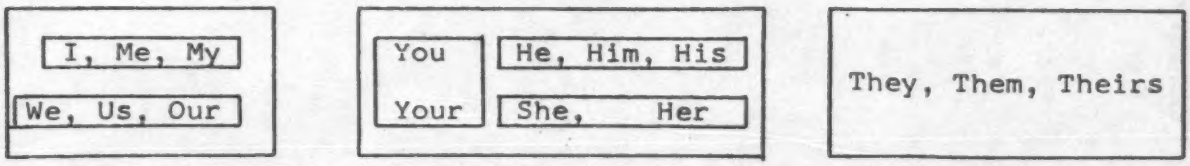
1st Person singular	I	Me	My	Mine
1st Person plural	We	Us	Our	Ours
2nd Person Sing/plur	You	You	You	Yours
3rd Person Singular(M)	He	Him	His	His
3rd Person Singular (F)	She	Her	Her	Hers
Not used	It	It	Its	Its
3rd Person plural	They	Them	Their	Their
Not used	Who	Whom	Whose	Whose

(After Gleason, (1969), page 105

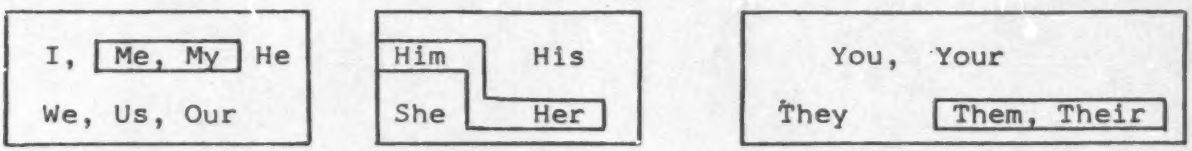
A group of students (adults) were given a similar task to the children in the experimental groups used and they arranged these pronouns in three main clusters as follows:

The children and the adults were asked to put the pronouns, which were printed on small cards into piles so that those that were close in meaning were in the same piles. The grouping within the 3 main clusters contain the Pronouns judged as being closest in meaning:

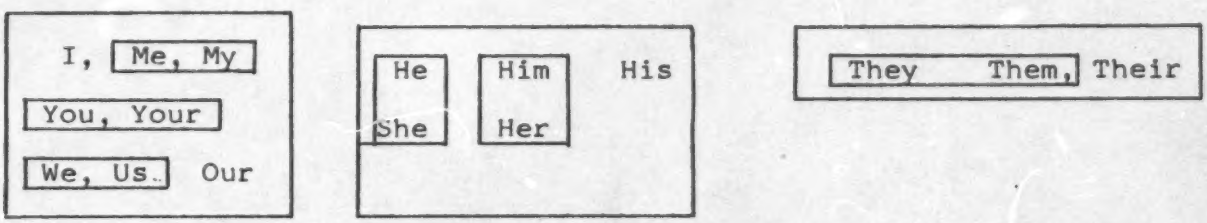
Clustering by Adult students



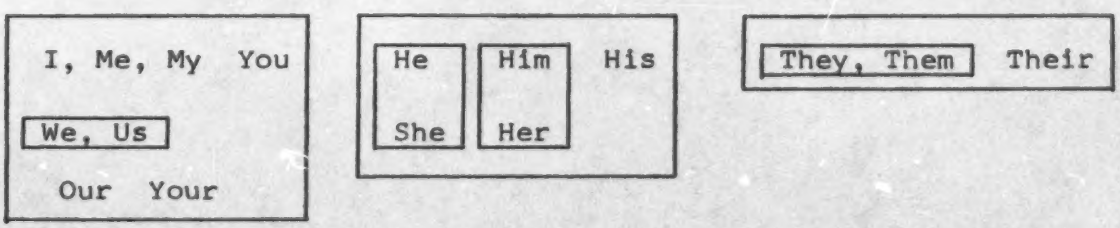
Compare this with the groupings of a class of 6-7 year old children:



Another class of children aged 8 to 9 p ced the following pattern:



The elder group of children of 10 - 11 years clustered like this:



The groupings provided by the adult showed their appreciation of the organisation of the field of pronouns: they were able

to put together as close in meaning those pronouns having most features in common and with close agreement to Gleason's theoretical model. The younger children however worked along another dimension that had priority at this developmental stage, grouping the male-female opposites as closest in meaning.

The main difference, however, among the children's clustering was in the strength of the groupings. The younger children's clusters in this and other fields was far less decisive and uncertain compared with the older children whose clusterings were tighter and stable.

Implications for Teaching and Classroom Practice

Now to classroom realities and the implications for reading.

There are two direct classroom applications from semantic field development that I would like to bring to your notice. One is in productive writing, the other concerning Pronouns in reading instruction. The first one is sketched lightly as it is the subject of a Workshop at this Conference. This is the use of the basic notion of a semantic field in a remedial situation. Richard Binns, from St. Murgo's Acadamy, Glasgow, who has organised the Workshop session teaches secondary boys who are slow with written language.

By using special techniques, he has managed to channel groups of basic associated words within semantic fields through editory procedures into continuous prose. This is with children experiencing difficulty. Richard Binns uses a left hand / right hand page editing technique to achieve this improvement. The pupil first records the development of a cluster of words, for example, a group concerned with police and crime, on the left hand side of a jotter. The associations are quickly derived, giving a drama in embryo.

Cluster given by 12 year old boy.

Policeman, Constable, crash,
Inspector, car, accident,
detective, ambulance, fire,
first aid, bus, traffic,
news reporter, T.V. reporters
buildings, beat, drinking.

This field is then used to outline a plot with the action in picture sequences. These provide sentences which, after editing are transformed to the right hand page of the jotter into narrative form. The second application is concerned with one element in the development of fluent reading. In this the awareness of pronoun relationships might be seen almost as a prerequisite.

Various types of relationships exist amongst the words in a passage of prose. There are, for instance, the grammatical relations between parts of speech that help us to anticipate what is to come, e.g. nouns and verbs, articles and nouns, adjectives and nouns, and many others. One that is not often made explicit to children is the process of anaphora, or the shortening or substituting for an expression, often by a pronoun, which is usually antecedent to it, and which has the same referent as the antecedent. (Bormuth et al, 1970). The existence of this function with pronouns was utilised engagingly by Lewis Carroll, as the following verse from Alice's Adventure in Wonderland demonstrates:

'They told me you had been to her,
And mentioned me to him,
She gave me a good character
But said I could not swim'

Here there are plenty of pronouns, but one of the reasons for the poem's puzzling quality is that there are no antecedents. The pronouns do not refer back to or replace any nouns. Two further illustrations provided by Mary Hoffman in the re-write of the Open University Course on Reading Development.may help to clarify the point

1 "After I had locked George in the shed, I began to feel sorry for him." In this sentence George and him are related anaphorically - we understand that him stands for George. The cue for the reader is backward acting relying on his/her knowledge that George is

'+ male' connecting this with a '+ male' pronoun in the correct case.

2 Another example uses three pairs of relations:

"From the time that Burton told her of his travels in Arabia, she longed to go there."

Even with so little context, the semantico-syntactic processes are

Burton - his : + male, possibly + adult, so + male pronoun, possessive

Her - she : relating pronoun to pronoun.

Arabia - there

There are, of course, other anaphoric structures and in their research Bormuth et al (1970) used fourteen types to test awareness of grammatical relations within and between sentences. Their examples demonstrate the importance of the process.

1 Joe may go. If so, we will . . . .

2 He works in the cellar. It is cool there.

3 The man who lives next door makes . . . .

4 John likes tennis. So does Bill.

5 The small boy came. This boy is . . . .

6 The black horse belongs to Joe. That is his . . . .

7 Several men went fishing. Two caught . . . .

8 Joe, Bill and Mary went to the show. All enjoyed . .

9 There are ripe and green apples. The green are mine.

10 Joe is sick. So is Bill.

11 Bill and Joe went shopping. No one bought . . . .

12 Joe is stuck in the mud. This leaves us . . . .

13 Those steel towers are Antennas. Those objects are . .

14 Joe left the room. He had . . . .

The more speedily a child anticipates these referrals back the more fluent the reading becomes. Preliminary trials with some materials using these pronoun relationships with beginning readers have shown that the process is also useful as a diagnostic aid to determine stages in the development of fluency.

Some early pilot research with individual readers using 12 passages from selected primers showed that those children who were regarded by their teachers as good readers (aged $6\frac{1}{2}$ - $7\frac{1}{2}$) could cope adequately in a close situation where the pronouns were deleted. The average and poor readers had much greater difficulty supplying the missing pronoun. The kinds of error made by an average reader (boy aged 7 years 5 months) concerned substitutions:

Her for she

Them for her

You for me

You for us

Him for our

You for her. And other similar errors.

A poor reader (boy, 7 years 5 months) substituted:

I for He

He for Him

He for She

I for We

He for We (twice)

He for I (twice) etc

In each case the pronouns were provided and had to be selected. The close passages were completed in normal class situations and were given by the children's own teacher. You will have spotted, of course, that in 'normal' reading situations other cues are present from graphemes, but to develop fluent reading through that stumbling from individual word to individual word stage, needs greater basic development. Removing the grapheme cues to a distance revealed weakness.

You may suspect that the texts were very difficult and may be intrigued to know the 12 texts. They were as follows:

Eg 1 from Janet and John Book 3

Eg 2 from Gay Way Yellow Book

Eg 3 from Reading to some purpose Book 1

Eg 4 from Reading to some purpose Book 1

Eg 5 from Reading to some purpose Book 1

Eg 6 from Reading to some purpose Book 1

Eg 7 from Revised Beacon Study Reader

Eg 8 from Revised Beacon Study Reader

Eg 9 from Janet and John Book 3

Eg 10 from Janet and John Book 3

Eg 11 from Janet and John Book 3

Eg 12 from An article from Reader's Digest

Apart from 12, they were all in use in schools.

It was seen during this work, and again I must emphasize its very preliminary nature, that the poor reader, defined as poor presumably because he had not yet achieved fluency, has great difficulty in coping with the anaphoric process of pronouns. The inability to utilise backward acting cues was noticed particularly. The weakness is very well demonstrated in a cloze type exercise where the context should provide the cues necessary to supply the pronoun.

Marie Clay (1969) mentions that pronouns have high rates of self-correction (60%, cf Nouns 20%), which indicates that although often corrected, many errors are made with their usage in the first place. Those who do not correct their errors, the slower readers, will need instruction and practice.

It may be, of course, that the teaching of reading has not drawn attention to the process of forward and backward acting cues. As so often there are those children who will have little difficulty in transferring their ability to cope with relations in oral language situations to that of

reading and who do not need instruction, but others will need to have each process taught and the presence of such elements made explicit.

This is only one very small but pertinent part of the many facets of semantics that can inform the reading process. There are many other like predication analysis to be developed as progress is made in our knowledge of the semantic structure of sentences and paragraphs which may will illuminate reading comprehension, especially those studies interrelating syntax and semantics which bring us so close to the dynamics involved in reading.

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July 1976

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